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(54) Title: FLAGELLIN PEPTIDES AS ADJUVANTS FOR VACCINES

(57) Abstract: A method is provided for inducing the adaptive immune response of a patient to an antigen comprising administering to the patient an effective amount of a flagellin protein or peptide fragment thereof to induce an adaptive immune response to said antigen.

INTERNATIONAL SEARCH REPORT

PCT/GB 03/03797

A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 A61K39/39 A61P31/00 C07K14/255

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K C07K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data, EMBASE

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>DATABASE BIOSIS 'Online! BIOSCIENCES INFORMATION SERVICE, PHILADELPHIA, PA, US; 2002, CONWELL J V ET AL: "Rapid antibody levels to Pseudomonas aeruginosa flagellin protein generated by targeted dendritic cell immunization" XP002271613 Database accession no. PREV200200585438 abstract & ABSTRACTS OF THE GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY, vol. 102, 2002, page 170, 102ND GENERAL MEETING OF THE AMERICAN SOCIETY FOR MICROBIOLOGY; SALT LAKE CITY, UT, USA; MAY 19-23, 2002 ISSN: 1060-2011</p> <p style="text-align: center;">----- -/-</p>	1-16

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

* Special categories of cited documents:

A document defining the general state of the art which is not considered to be of particular relevance

E earlier document but published on or after the international filing date

L document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)

O document referring to an oral disclosure, use, exhibition or other means

P document published prior to the international filing date but later than the priority date claimed

T later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

X document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

Y document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

& document member of the same patent family

Date of the actual completion of the international search

26 February 2004

Date of mailing of the international search report

12/03/2004

Name and mailing address of the ISA

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INTERNATIONAL SEARCH REPORT

PCT/GB 03/03797

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 88/01873 A (EMORY UNIVERSITY) 24 March 1988 (1988-03-24) page 23 - page 30	1,5,8,9
A	SIERRO FREDERIC ET AL: "Flagellin stimulation of intestinal epithelial cells triggers CCL20-mediated migration of dendritic cells" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, vol. 98, no. 24, 20 November 2001 (2001-11-20), pages 13722-13727, XP002271610 & ISSN: 0027-8424 cited in the application the whole document	1-16
P,X	MCSORLEY STEPHEN J ET AL: "Bacterial flagellin is an effective adjuvant for CD4+ T cells in vivo" JOURNAL OF IMMUNOLOGY, vol. 169, no. 7, 1 October 2002 (2002-10-01), pages 3914-3919, XP002271611 ISSN: 0022-1767 the whole document	1-16
X	JOYS T M: "The covalent structure of the phase-1 flagellar filament protein of Salmonella typhimurium and its comparison with other flagellins." THE JOURNAL OF BIOLOGICAL CHEMISTRY. 15 DEC 1985, vol. 260, no. 29, 15 December 1985 (1985-12-15), pages 15758-15761, XP002271612 ISSN: 0021-9258 the whole document	12-14

INTERNATIONAL SEARCH REPORT

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Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
Although claims 1-8 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this International application, as follows:

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

PCT/GB 03/03797

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